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EXAMINER	
NAJEE-ULLAH, TARIQ S	
ART UNIT	PAPER NUMBER
4121	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/773,649	COON ET AL.	
	Examiner	Art Unit	
	TARIQ S. NAJEE-ULLAH	4121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02/06/2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02/06/2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Art Unit: 4121

DETAILED ACTION

This is the first Office action in response to Application 10/773,649 filed on February 6, 2004. Claims 1-50 have been examined and are pending.

Claim Objections

1. Claim 19 is objected to because of the following informalities: "receiving **an** real-line analysis" should read "receiving **a** real-line analysis." Appropriate correction is required.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 11-20, 31-40 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 11, 15, 19, 31-32, 34-40 recite "a computer readable medium." The computer readable is not limited to statutory subject matter. In view of Applicant's disclosure as submitted, specification page 27, paragraph [0056], the computer readable medium is not limited to tangible embodiments, instead being defined as including both tangible embodiments (e.g., "…random access memory, read-only memory (ROM), CD ROM, floppy disks, and magnetic tape…"page 27, paragraph [0056]) and intangible

embodiments (e.g., "...examples of such media include, but are not limited to...random access memory, read-only memory (ROM), CD ROM, floppy disks, and magnetic tape...[tangible embodiments]"). As such, the claim is not limited to statutory subject matter and is therefore non-statutory.

Claims 12-14, 16-18, 20 and 33 are dependent on claims which have been rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter and are also rejected.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-10, 11-20, 21-30, 31-40, 41-50 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent Number 6,115,393 to Engel et al ('Engel' hereinafter).

Examiner interprets "state variable information" and "parameters" in light of the applicant's specification to describe the condition of the protocol

stack at a particular instant in time. This information can be indicated by one or more of a protocol identifier, an address, or a port number. The protocol identifier indicating what type of protocol was used to establish the network connection. Examiner further interprets "protocol engine" to be the means that implements a protocol stack.

Regarding claim 1, Engel discloses **a method for characterizing a network connection comprising: receiving parameters that specify a network connection** (Col. 2, lines 21-31; Engel discloses monitoring communications which occur in a network of nodes, each communication being effected by a transmission of one or more packets among two or more communicating nodes which are detected passively and in real time, communication information associated with multiple protocols is derived from the packet contents.)**; receiving state variable information pertaining to the network connection according to the parameters** (Col. 2, lines 32-41; Engel discloses information about the states of dialogs, i.e. state variable information, occurring in the network is derived from the packet contents.)**; sensing when the network connection is initiated according to the received state variable information** (Col. 2, lines 42-45; Engel discloses a current state

is maintained for each dialog, and the current state, i.e. state variable information, is updated in response to the detected contents of transmitted packets.)**; and storing the state variable information** (Col. 2, lines 45-47; Engel discloses for each dialog, a history of events is maintained, i.e. stored, based on information, i.e. state variable information, derived from the contents of packets)**.**

Regarding claim 2, Engel discloses **the method of claim 1 wherein receiving state variable information comprises: conveying to a protocol engine a parameter including at least one of a protocol identifier, a source address, a source port, a destination address and a destination port** (Col. 8, lines 35-37, 45-55; Engel discloses a protocol data unit (PDU) to processes protocol stack, i.e. protocol engine, that includes addressing information.)**; and receiving from the protocol engine a state variable for the network connection according to the parameter** (Col. 8, lines 45-65; Engel discloses variable information from the PDU, i.e. protocol engine, that corresponds to the port or connection.)**.**

Regarding claim 3, Engel discloses **the method of claim 1 wherein sensing when the network connection is initiated comprises monitoring the value of a state variable indicative of the connection**

state of the connection (Col. 22, lines 58-64; Engel discloses a network monitor that monitors the state of the connection based on state information received from both ends of the connection.).

Regarding claim 4, Engel discloses **the method of claim 1 wherein sensing when the network connection is initiated comprises monitoring the value of a TCP/IP state variable called "STATE"** (Col. 22, lines 3-5; Engel discloses the state to which the node is changed is specified by the S="STATE" entry.).

Regarding claim 5, Engel discloses **the method of claim 1 further comprising: sensing when the network connection terminates according to the state variable information** (Col. 11, lines 38-52; Engel discloses a network monitor with a state machine that tracks variable connection states and events, i.e. state variable information. The monitor retrieves this information whether the connection is active or inactive, i.e. the connection terminates.)**; retrieving stored state variable information according to the network connection after the network connection terminates** (Col. 11, lines 38-52; Engel discloses a network monitor with a state machine that tracks variable connection states and events, i.e. state variable information. The monitor retrieves this information whether the connection is active or

inactive, i.e. the connection terminates.)**; and creating a history of the network connection according to the state variable information** (Col. 22, line 65-Col. 23, line 12; Engel discloses there is a history data structure which the state machine uses to remember the current state of the connection, the state of each of the nodes participating in the connection and a short history of state related information.)**.**

Regarding claim 6, Engel discloses **the method of claim 5 wherein creating a history of the network connection comprises: developing a network connection profile from the state variable information** (Col. 22, line 65-Col. 23, line 12; Engel discloses there is a history data structure which the state machine uses to remember the current state of the connection, the state of each of the nodes participating in the connection and a short history of state related information, i.e. network connection profile.)**; and creating a history of the network connection profile** (Col. 22, line 65-Col. 23, line 12; Engel discloses there is a history data structure which the state machine uses to remember the current state of the connection, the state of each of the nodes participating in the connection and a short history of state related information, i.e. network connection profile. Fig. 8 and 9 illustrate a network connection profile.)**.**

Regarding claim 7, Engel discloses **the method of claim 6 wherein creating a history of the network connection profile comprises detecting an exceptional event** (Col. 24, lines 15-25; Engel discloses the network monitor keeps useful statistics about the connection including any "inconsistencies" or "UNKNOWN" state, i.e. exceptional events, which have occurred over the connection).

Regarding claim 8, Engel discloses **the method of claim 7 further comprising analyzing the exceptional event** (Col. 24, lines 15-25; Engel discloses the network monitor keeps useful statistics about the connection including any "inconsistencies" or "UNKNOWN" state, i.e. exceptional events, which have occurred over the connection. Col. 24, lines 21-29; Engel discloses how the network monitor analyzes "inconsistencies" and "UNKNOWN" states.).

Regarding claim 9, Engel discloses **the method of claim 1 further comprising: retrieving the state variable information while the network connection continues** (Col. 11, lines 38-52; Engel discloses a network monitor with a state machine that tracks variable connection states and events, i.e. state variable information. The monitor retrieves this information whether the connection is active or inactive, i.e. while the network

continues.)**; and making the state variable information available on a periodic basis** (Col. 12, lines 57-62; Engel discloses a network monitor with an event manager that calculates time averages and performs periodic updates of the monitor's variables.)**.**

Regarding claim 10, Engel discloses **the method of claim 9 further wherein making state variable information available comprises: creating a dynamic profile of the network connection according to the state variable information** (Col. 13, lines 30-32; Engel discloses a network monitor with an address tracking module that keeps track of the node name to node address bindings on networks which implement dynamic node addressing protocols, i.e. creates a dynamic profile of the network connection according to state variable information.)**; and making the dynamic profile available on a periodic basis** (Col. 12, lines 57-62; Engel discloses a network monitor with an event manager that calculates time averages and performs periodic updates of the monitor's variables.)**.**

Regarding claim 11, Engel discloses **a network connection analysis unit capable of characterizing a network connection, said network connection analysis unit comprising: supervisor comprising: command register capable of receiving parameters that specify a**

network connection (Col. 2, lines 21-31; Engel discloses monitoring communications which occur in a network of nodes, each communication being effected by a transmission of one or more packets among two or more communicating nodes which are detected passively and in real time, communication information associated with multiple protocols is derived from the packet contents. Engel uses a network monitor, i.e. network connection analysis unit, to do this.)**, and source address register capable of receiving an address referencing the location of state variables in a state memory** (Col. 6, line 53-59; Engel discloses a Network Monitor with a memory and a processor. Col. 2, lines 21-31; Engel discloses monitoring communications which occur in a network of nodes, each communication being effected by a transmission of one or more packets among two or more communicating nodes which are detected passively and in real time, communication information associated with multiple protocols is derived from the packet contents.)**; supervisory controller capable of: directing a state variable request to a protocol engine according to the parameters** (Col. 2, lines 32-41; Engel discloses information about the states of dialogs, i.e. state variable information, occurring in the network is derived from the packet contents.)**; sensing when the network connection is**

initiated by monitoring a location in the state memory as referenced by the contents of the source address register (Col. 2, lines 42-45; Engel discloses a current state is maintained for each dialog, and the current state, i.e. state variable information, is updated in response to the detected contents of transmitted packets.)**, and first computer readable medium controller capable of directing a plurality of state variables from the state memory to a computer readable medium when the network connection is initiated** (Col. 2, lines 45-47; Engel discloses for each dialog, a history of events is maintained, i.e. stored or directed to a computer readable storage medium, based on information, i.e. state variable information, derived from the contents of packets)**.**

Regarding claim 12, Engel discloses **the network connection analysis unit of claim 11 wherein the command register generates parameters including at least one of a protocol identifier, a source address, a source port, a destination address and a destination port** (Col. 8, lines 35-37, 45-55; Engel discloses a protocol data unit (PDU) to processes protocol stack, i.e. protocol engine, that includes addressing information.) **and wherein the controller is further capable of loading into the source address register a**

memory reference received from a protocol engine (Col. 8, lines 45-65; Engel discloses variable information from the PDU, i.e. protocol engine, that corresponds to the port or connection.).

Regarding claim 13, Engel discloses **the network connection analysis unit of claim 11 wherein the state memory referenced by the source address register contains an indictor of activity of the network connection** (Col. 22, lines 58-64; Engel discloses a network monitor that monitors the state of the connection based on state information received from both ends of the connection.).

Regarding claim 14, Engel discloses **the network connection analysis unit of claim 11 wherein the state memory referenced by the source address register contains a TCP/IP state variable called "STATE"** (Col. 22, lines 3-5; Engel discloses the state to which the node is changed is specified by the S="STATE" entry.).

Regarding claim 15, Engel discloses **the network connection analysis unit of claim 11 further comprising an off-line connection analyzer comprising: off-line command register capable of receiving an off-line analysis request that includes a connection specifier** (Col. 11, lines 38-52; Engel discloses a network monitor with a state machine that tracks variable connection states and events, i.e. state variable information or connection specifiers. The

monitor retrieves this information whether the connection is active or inactive, i.e. the connection terminates.)**; off-line computer readable medium controller capable of retrieving state variables from a computer readable medium according to the connection specifier** (Col. 11, lines 38-52; Engel discloses a network monitor with a state machine that tracks variable connection states and events, i.e. state variable information or connection specifier. The monitor retrieves this information whether the connection is active or inactive, i.e. the connection terminates.)**; format table capable of converting the state variables into a print stream** (Col. 22, line 65-Col. 23, line 12; Engel discloses there is a history data structure which the state machine uses to remember the current state of the connection, the state of each of the nodes participating in the connection and a short history of state related information. Col. 28, lines 45-60; Engel discloses a summary tool that displays network operation status with statistical information at each node. This data can be printed out.)**; off-line analysis controller capable of causing the second computer readable medium controller to retrieve state variables and further capable of directing the retrieved state variables to the format table** (Col. 22, line 65-Col. 23, line 12; Engel discloses there is a history data

structure which the state machine uses to remember the current state of the connection, the state of each of the nodes participating in the connection and a short history of state related information.).

Regarding claim 16, Engel discloses **the network connection analysis unit of claim 15 wherein format table includes a profile description that correlates one or more state variables to a connection profile** (Col. 22, line 65-Col. 23, line 12; Engel discloses there is a history data structure which the state machine uses to remember the current state of the connection, the state of each of the nodes participating in the connection and a short history of state related information, i.e. network connection profile.).

Regarding claim 17, Engel discloses **the network connection analysis unit of claim 16 wherein the off-line connection analyzer further comprises an exceptional event detector capable of detecting an exceptional event** (Col. 24, lines 15-25; Engel discloses the network monitor keeps useful statistics about the connection including any "inconsistencies" or "UNKNOWN" state, i.e. exceptional events, which have occurred over the connection).

Regarding claim 18, Engel discloses **the network connection analysis unit of claim 17 wherein the exceptional event detector is**

capable of analyzing the exceptional event (Col. 24, lines 15-25; Engel discloses the network monitor keeps useful statistics about the connection including any "inconsistencies" or "UNKNOWN" state, i.e. exceptional events, which have occurred over the connection. Col. 24, lines 21-29; Engel discloses how the network monitor analyzes "inconsistencies" and "UNKNOWN" states.).

Regarding claim 19, Engel discloses **the network connection analysis unit of claim 11 further comprising a real-time connection analyzer comprising: real-time command register capable of receiving an real-line analysis request that includes a connection specifier** (Col. 11, lines 38-52; Engel discloses a network monitor with a state machine that tracks variable connection states and events, i.e. state variable information. The monitor retrieves this information whether the connection is active or inactive, i.e. while the network continues.)**; real-time computer readable medium controller capable of retrieving state variables from a computer readable medium according to the connection specifier** (Col. 11, lines 38-52; Engel discloses a network monitor with a state machine that tracks variable connection states and events, i.e. state variable information. The monitor retrieves this information whether the connection is active or inactive, i.e.

while the network continues.)**; and display subsystem capable of generating a display signal according to the retrieved state variables** (Col. 28, lines 45-60; Engel discloses a summary tool that displays network operation status with statistical information at each node.)**.**

Regarding claim 20, Engel discloses **the network connection analysis unit of claim 19 wherein the display subsystem comprises: profile generator capable of creating a profile of a network connection** (Col. 28, lines 45-60; Engel discloses a summary tool that displays network operation status with statistical information at each node, i.e. network connection.)**.**

Regarding claim 21, Engel discloses **a network connection analysis system comprising: memory capable of storing instructions** (Col. 6, line 53-59; Engel discloses a Network Monitor with a memory and a processor.)**; processor capable of executing instructions stored in the memory** (Col. 6, lines 53-59; Engel discloses a Network Monitor with a processor.)**; and network connection characterization instruction sequence that, when executed by the processor, minimally causes the processor to: receive parameters that specify a network connection** (Col. 2, lines 21-31; Engel discloses monitoring communications which occur in a network of

nodes, each communication being effected by a transmission of one or more packets among two or more communicating nodes which are detected passively and in real time, communication information associated with multiple protocols is derived from the packet contents.)**; receive state variable information pertaining to the network connection according to the parameters** (Col. 2, lines 32-41; Engel discloses information about the states of dialogs, i.e. state variable information, occurring in the network is derived from the packet contents.)**; sense when the network connection is initiated according to the received state variable information** (Col. 2, lines 42-45; Engel discloses a current state is maintained for each dialog, and the current state, i.e. state variable information, is updated in response to the detected contents of transmitted packets.)**; and store the state variable information** (Col. 2, lines 45-47; Engel discloses for each dialog, a history of events is maintained, i.e. stored, based on information, i.e. state variable information, derived from the contents of packets).

Regarding claim 22, Engel discloses **the network connection analysis system of claim 21 wherein the network connection characterization instruction sequence includes a state variable**

information receiver instruction sequence that, when executed by the processor, causes the processor to receive state variable information by minimally causing the processor to: convey to a protocol engine a parameter including at least one of a protocol identifier, a source address, a source port, a destination address and a destination port (Col. 8, lines 35-37, 45-55; Engel discloses a protocol data unit (PDU) to processes protocol stack, i.e. protocol engine, that includes addressing information.)**; and receive from the protocol engine state variables for the network connection according to the parameter** (Col. 8, lines 45-65; Engel discloses variable information from the PDU, i.e. protocol engine, that corresponds to the port or connection.)**.**

Regarding claim 23, Engel discloses **the network connection analysis system of claim 21 wherein the network connection characterization instruction sequence causes the processor to sense when the network connection has been initiated by minimally causing the processor to monitor the value of a state variable that is indicative of the connection state of the connection** (Col. 22, lines 58-64; Engel discloses a network monitor that monitors the state of the connection based on state information received from both ends of the connection.)**.**

Regarding claim 24, Engel discloses **the network connection analysis system of claim 21 wherein the network connection characterization instruction sequence causes the processor to sense when the network connection has been initiated by minimally causing the processor to monitor the value of a TCP/IP state variable called "STATE"** (Col. 22, lines 3-5; Engel discloses the state to which the node is changed is specified by the S="STATE" entry.).

Regarding claim 25, Engel discloses **the network connection analysis system of claim 21 further comprising an off-line connection analysis instruction sequence that, when executed by the processor, minimally causes the processor to: sense when the network connection terminates according to the state variable information** (Col. 11, lines 38-52; Engel discloses a network monitor with a state machine that tracks variable connection states and events, i.e. state variable information. The monitor retrieves this information whether the connection is active or inactive, i.e. the connection terminates.)**; retrieve stored state variable information after the network connection terminates** (Col. 11, lines 38-52; Engel discloses a network monitor with a state machine that tracks variable connection states and events, i.e.

state variable information. The monitor retrieves this information whether the connection is active or inactive, i.e. the connection terminates.)**; and create a history of the network connection according to the state variable information** (Col. 22, line 65-Col. 23, line 12; Engel discloses there is a history data structure which the state machine uses to remember the current state of the connection, the state of each of the nodes participating in the connection and a short history of state related information.)**.**

Regarding claim 26, Engel discloses **the network connection analysis system of claim 25 wherein the off-line connection analysis instruction sequence comprises a network connection profile creation instruction sequence that, when executed by the processor, causes the processor to create a history by minimally causing the processor to: develop a network connection profile from the state variable information** (Col. 22, line 65-Col. 23, line 12; Engel discloses there is a history data structure which the state machine uses to remember the current state of the connection, the state of each of the nodes participating in the connection and a short history of state related information, i.e. network connection profile.)**; and create a history of the network connection profile** (Col. 22, line 65-Col. 23, line 12; Engel

discloses there is a history data structure which the state machine uses to remember the current state of the connection, the state of each of the nodes participating in the connection and a short history of state related information, i.e. network connection profile. Fig. 8 and 9 illustrate a network connection profile.).

Regarding claim 27, Engel discloses **the network connection analysis system of claim 26 wherein the network connection profile creation instruction sequence comprises an exceptional event detection instruction sequence that, when executed by the processor, minimally causes the processor to detect an exceptional event** (Col. 24, lines 15-25; Engel discloses the network monitor keeps useful statistics about the connection including any "inconsistencies" or "UNKNOWN" state, i.e. exceptional events, which have occurred over the connection).

Regarding claim 28, Engel discloses **the network connection analysis system of claim 27 wherein the network connection profile creation instruction sequence further comprises an exceptional event analysis instruction sequence that, when executed by the processor, minimally causes the processor to analyze the exceptional event** (Col. 24, lines 15-25; Engel discloses the

network monitor keeps useful statistics about the connection including any "inconsistencies" or "UNKNOWN" state, i.e. exceptional events, which have occurred over the connection. Col. 24, lines 21-29; Engel discloses how the network monitor analyzes "inconsistencies" and "UNKNOWN" states.).

Regarding claim 29, Engel discloses **the network connection analysis system of claim 21 further comprising: display driver capable of generating a display signal** (Col. 28, lines 45-60; Engel discloses a summary tool that displays network operation status with statistical information.)**; and real-time connection analysis instruction sequence that, when executed by the processor, further minimally causes the processor to: retrieve the state variable information while the network connection continues** (Col. 11, lines 38-52; Engel discloses a network monitor with a state machine that tracks variable connection states and events, i.e. state variable information. The monitor retrieves this information whether the connection is active or inactive, i.e. while the network continues.)**; and direct the state information to the display driver** (Col. 28, lines 45-60; Engel discloses a summary tool that displays network operation status with statistical information at each node.).

Regarding claim 30, Engel discloses **the network connection analysis system of claim 29 wherein the real-time connection analysis instruction sequence comprises a dynamic profile generation instruction sequence that, when executed by the processor, minimally causes the processor to: create a dynamic profile of the network connection according to the state variable information** (Col. 13, lines 30-32; Engel discloses a network monitor with an address tracking module that keeps track of the node name to node address bindings on networks which implement dynamic node addressing protocols, i.e. creates a dynamic profile of the network connection according to state variable information.)**; and direct the dynamic profile to the display driver** (Col. 28, lines 45-60; Engel discloses a summary tool that displays network operation status with statistical information at each node.)**.**

Regarding claim 31, Engel discloses **a computer-readable medium having computer-executable functions for characterizing a network connection comprising: network connection characterization instruction sequence that, when executed by a processor, minimally causes the processor to** (Col. 6, line 53-59; Engel discloses a Network Monitor with a memory and a processor.)**: receive**

parameters that specify a network connection (Col. 2, lines 21-31; Engel discloses monitoring communications which occur in a network of nodes, each communication being effected by a transmission of one or more packets among two or more communicating nodes which are detected passively and in real time, communication information associated with multiple protocols is derived from the packet contents.)**; receive state variable information pertaining to the network connection according to the parameters** (Col. 2, lines 32-41; Engel discloses information about the states of dialogs, i.e. state variable information, occurring in the network is derived from the packet contents.)**; sense when the network connection is initiated according to the received state variable information** (Col. 2, lines 42-45; Engel discloses a current state is maintained for each dialog, and the current state, i.e. state variable information, is updated in response to the detected contents of transmitted packets.)**; and store the state variable information** (Col. 2, lines 45-47; Engel discloses for each dialog, a history of events is maintained, i.e. stored, based on information, i.e. state variable information, derived from the contents of packets).

Regarding claim 32, Engel discloses **the computer-readable medium of claim 31 wherein the network connection characterization instruction sequence includes a state variable information receiver instruction sequence that, when executed by a processor, causes the processor to receive state variable information by minimally causing the processor to: convey to a protocol engine a parameter including at least one of a protocol identifier, a source address, a source port, a destination address and a destination port** (Col. 8, lines 35-37, 45-55; Engel discloses a protocol data unit (PDU) to processes protocol stack, i.e. protocol engine, that includes addressing information.)**; and receive from the protocol engine state variables for the network connection according to the parameter** (Col. 8, lines 45-65; Engel discloses variable information from the PDU, i.e. protocol engine, that corresponds to the port or connection.)**.**

Regarding claim 33, Engel discloses **the network connection analysis system of claim 31 wherein the network connection characterization instruction sequence causes the processor to sense when the network connection has been initiated by minimally causing the processor to monitor the value of a state variable that is indicative of the connection state of the connection** (Col. 22, lines

58-64; Engel discloses a network monitor that monitors the state of the connection based on state information received from both ends of the connection.).

Regarding claim 34, Engel discloses **the network connection analysis system of claim 31 wherein the network connection characterization instruction sequence causes the processor to sense when the network connection has been initiated by minimally causing the processor to monitor the value of a TCP/IP state variable called "STATE"** (Col. 22, lines 3-5; Engel discloses the state to which the node is changed is specified by the S="STATE" entry.).

Regarding claim 35, Engel discloses **the computer-readable medium of claim 31 further comprising an off-line connection analysis instruction sequence that, when executed by a processor, minimally causes the processor to: sense when the network connection terminates according to the state variable information** (Col. 11, lines 38-52; Engel discloses a network monitor with a state machine that tracks variable connection states and events, i.e. state variable information. The monitor retrieves this information whether the connection is active or inactive, i.e. the connection terminates.)**; retrieve stored state variable**

information after the network connection terminates (Col. 11, lines 38-52; Engel discloses a network monitor with a state machine that tracks variable connection states and events, i.e. state variable information. The monitor retrieves this information whether the connection is active or inactive, i.e. the connection terminates.)**; and create a history of the network connection according to the state variable information** (Col. 22, line 65-Col. 23, line 12; Engel discloses there is a history data structure which the state machine uses to remember the current state of the connection, the state of each of the nodes participating in the connection and a short history of state related information.)**.**

Regarding claim 36, Engel discloses **the computer-readable medium of claim 35 wherein the off-line connection analysis instruction sequence comprises a network connection profile creation instruction sequence that, when executed by a processor, causes the processor to create a history by minimally causing the processor to: develop a network connection profile from the state variable information** (Col. 22, line 65-Col. 23, line 12; Engel discloses there is a history data structure which the state machine uses to remember the current state of the connection, the state of each of the nodes participating in the connection

and a short history of state related information, i.e. network connection profile.)**; and create a history of the network connection profile** (Col. 22, line 65-Col. 23, line 12; Engel discloses there is a history data structure which the state machine uses to remember the current state of the connection, the state of each of the nodes participating in the connection and a short history of state related information, i.e. network connection profile. Fig. 8 and 9 illustrate a network connection profile.).

Regarding claim 37, Engel discloses **the computer-readable medium of claim 36 wherein the network connection history profile instruction sequence comprises an exceptional event detection instruction sequence that, when executed by a processor, minimally causes the processor to detect an exceptional event** (Col. 24, lines 15-25; Engel discloses the network monitor keeps useful statistics about the connection including any "inconsistencies" or "UNKNOWN" state, i.e. exceptional events, which have occurred over the connection).

Regarding claim 38, Engel discloses **the computer-readable medium of claim 37 wherein the network connection profile creation instruction sequence further comprises an exceptional event analysis instruction sequence that, when executed by a processor,**

minimally causes the processor to analyze the exceptional event (Col. 24, lines 15-25; Engel discloses the network monitor keeps useful statistics about the connection including any "inconsistencies" or "UNKNOWN" state, i.e. exceptional events, which have occurred over the connection. Col. 24, lines 21-29; Engel discloses how the network monitor analyzes "inconsistencies" and "UNKNOWN" states.).

Regarding claim 39, Engel discloses **the computer-readable medium of claim 31 further comprising a real-time connection analysis instruction sequence that, when executed by a processor, further minimally causes the processor to: retrieve the state variable information while the network connection continues** (Col. 11, lines 38-52; Engel discloses a network monitor with a state machine that tracks variable connection states and events, i.e. state variable information. The monitor retrieves this information whether the connection is active or inactive, i.e. while the network continues.)**; and direct the state information to a display driver** (Col. 28, lines 45-60; Engel discloses a summary tool that displays network operation status with statistical information at each node.).

Regarding claim 40, Engel discloses **the computer-readable medium of claim 39 wherein the real-time connection analysis**

instruction sequence comprises a dynamic profile generation instruction sequence that, when executed by a processor, minimally causes the processor to: create a dynamic profile of the network connection according to the state variable information (Col. 13, lines 30-32; Engel discloses a network monitor with an address tracking module that keeps track of the node name to node address bindings on networks which implement dynamic node addressing protocols, i.e. creates a dynamic profile of the network connection according to state variable information.)**; and direct the dynamic profile to the display driver** (Col. 28, lines 45-60; Engel discloses a summary tool that displays network operation status with statistical information at each node.)**.**

Regarding claim 41, Engel discloses **a network connection analysis apparatus comprising: means for receiving state variable information pertaining to the network connection according to a set of received network parameters** (Col. 6, line 53-59; Engel discloses a Network Monitor apparatus/means to monitor network connections. Col. 2, lines 32-41; Engel discloses information about the states of dialogs, i.e. state variable information, occurring in the network is derived from the packet contents.)**; means for sensing initiation of the network connection according to**

the received state variable information (Col. 2, lines 42-45; Engel discloses a current state is maintained for each dialog, and the current state, i.e. state variable information, is updated in response to the detected contents of transmitted packets.)**; and means for storing the state variable information** (Col. 2, lines 45-47; Engel discloses for each dialog, a history of events is maintained, i.e. stored, based on information, i.e. state variable information, derived from the contents of packets).

Regarding claim 42, Engel discloses **the network connection analysis apparatus of claim 41 wherein the state variable information receiving means comprises: means for conveying to a protocol engine a parameter including at least one of a protocol identifier, a source address, a source port, a destination address and a destination port** (Col. 8, lines 35-37, 45-55; Engel discloses a protocol data unit (PDU) to processes protocol stack, i.e. protocol engine, that includes addressing information.)**; and means for receiving from the protocol engine a state variable for the network connection according to the parameter** (Col. 8, lines 45-65; Engel discloses variable information from the PDU, i.e. protocol engine, that corresponds to the port or connection.).

Regarding claim 43, Engel discloses **the network connection analysis apparatus of claim 41 wherein the means for sensing initiation of the network connection comprise a means for monitoring the value of a state variable indicative of the connection state of a network connection** (Col. 22, lines 58-64; Engel discloses a network monitor that monitors the state of the connection based on state information received from both ends of the connection.).

Regarding claim 44, Engel discloses **the network connection analysis apparatus of claim 41 wherein the means for sensing initiation of the network connection comprise a means for monitoring the value of a TCP/IP state variable called "STATE"** (Col. 22, lines 3-5; Engel discloses the state to which the node is changed is specified by the S="STATE" entry.).

Regarding claim 45, Engel discloses **the network connection analysis apparatus of claim 41 further comprising: means for sensing when the network connection terminates according to the state variable information** (Col. 11, lines 38-52; Engel discloses a network monitor with a state machine that tracks variable connection states and events, i.e. state variable information. The monitor retrieves this information whether the connection is

active or inactive, i.e. the connection terminates.)**; means for retrieving stored state variable information according to the network connection after the network connection terminates** (Col. 11, lines 38-52; Engel discloses a network monitor with a state machine that tracks variable connection states and events, i.e. state variable information. The monitor retrieves this information whether the connection is active or inactive, i.e. the connection terminates.)**; and means for creating a history of the network connection according to the state variable information** (Col. 22, line 65-Col. 23, line 12; Engel discloses there is a history data structure which the state machine uses to remember the current state of the connection, the state of each of the nodes participating in the connection and a short history of state related information.)**.**

Regarding claim 46, Engel discloses **the network connection analysis apparatus of claim 45 wherein means for creating a history of the network connection comprises: means for developing a network connection profile from the state variable information** (Col. 22, line 65-Col. 23, line 12; Engel discloses there is a history data structure which the state machine uses to remember the current state of the connection, the state of each of the nodes participating in the connection and a short history of state

related information, i.e. network connection profile.)**; and means for creating a history of the network connection profile** (Col. 22, line 65-Col. 23, line 12; Engel discloses there is a history data structure which the state machine uses to remember the current state of the connection, the state of each of the nodes participating in the connection and a short history of state related information, i.e. network connection profile. Fig. 8 and 9 illustrate a network connection profile.)**.**

Regarding claim 47, Engel discloses **the network connection analysis apparatus of claim 46 wherein means for creating a history of the network connection profile comprises means for detecting an exceptional event** (Col. 24, lines 15-25; Engel discloses the network monitor keeps useful statistics about the connection including any "inconsistencies" or "UNKNOWN" state, i.e. exceptional events, which have occurred over the connection)**.**

Regarding claim 48, Engel discloses **the network connection analysis apparatus of claim 47 further comprising means for analyzing the exceptional event** (Col. 24, lines 15-25; Engel discloses the network monitor keeps useful statistics about the connection including any "inconsistencies" or "UNKNOWN" state, i.e. exceptional events, which have occurred over the connection. Col. 24, lines 21-29; Engel discloses how the

network monitor analyzes "inconsistencies" and "UNKNOWN" states.).

Regarding claim 49, Engel discloses **the network connection analysis apparatus of claim 41 further comprising: means for retrieving the state variable information while the connection continues** (Col. 11, lines 38-52; Engel discloses a network monitor with a state machine that tracks variable connection states and events, i.e. state variable information. The monitor retrieves this information whether the connection is active or inactive, i.e. while the network continues.)**; and means for making the state variable information available on a periodic basis** (Col. 12, lines 57-62; Engel discloses a network monitor with an event manager that calculates time averages and performs periodic updates of the monitor's variables.).

Regarding claim 50, Engel discloses **the network connection analysis apparatus of claim 49 wherein means for making the state variable information available comprises: means for creating a dynamic profile of the network connection according to the state variable information** (Col. 13, lines 30-32; Engel discloses a network monitor with an address tracking module that keeps track of the node name to node address bindings on networks which

implement dynamic node addressing protocols, i.e. creates a dynamic profile of the network connection according to state variable information.)**; and means for making the dynamic profile available on a periodic basis** (Col. 12, lines 57-62; Engel discloses a network monitor with an event manager that calculates time averages and performs periodic updates of the monitor's variables.)**.**

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- US Patent Number 5,566,170 to Bakke et al titled "Method and Apparatus for Accelerated Packet Forwarding."
- US Patent Publication Number 2003/0091165 to Bearden et al titled "Report Generation and Visualization Systems and Methods and their use in Testing Frameworks for Determining Suitability of a Network for Target Applications."
- US Patent Number 7,089,326 to Boucher et al titled "Fast-Path Processing for Receiving Data on TCP Connection Offload Devices."
- US Patent Number 6,975,330 to Charlton et al titled "Graphic Display of Network Performance Information."

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- US Patent Number 5,671,355 to Collins titled "Reconfigurable Network Interface Apparatus and Method."
- US Patent Number 5,937,169 to Connery et al titled "Offload of TCP Segmentation to a Smart Adapter."
- US Patent Publication Number 2004/0015579 to Cooper et al titled "Method and Apparatus for Enterprise Management."
- US Patent Number 5,751,965 to Mayo et al titled "Network Connection Status Monitor and Display."
- US Patent Number 5,598,410 to Stone titled "Method and Apparatus for Accelerated Packet Processing."
- US Patent Number 5,511,169 to Suda titled "Data Transmission Apparatus and a Communication Path Management Method Therefor."
- US Patent Publication Number 2002/0157018 to Syvanne titled "Method of Managing a Network Device, a Management System, and a Network Device."
- US Patent Number 5,303,344 to Yokoyama et al titled "Protocol Processing Apparatus for use in Interfacing Network Connected Computer Systems Utilizing Separate Paths for Control Information and Data Transfer."

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